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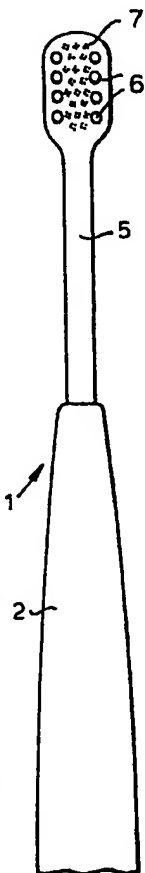
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- (71) Applicant (*for all designated States except AG, AU, BB, CA, CY, GB, GD, GH, GM, IE, IL, IN, KE, LK, LS, MN, MW, NZ, SD, SG, SL, SZ, TT, TZ, UG, ZA, ZW only*): UNILEVER PLC [GB/GB]; Unilever House, Blackfriars, London, Greater London EC4P 4BQ (GB).
- (71) Applicant (*for IN only*): HINDUSTAN LEVER LTD [IN/IN]; Hindustan Lever House, 165-166 Backbay Reclamation, Mumbai 400 020, Maharashtra (IN).
- (72) Inventor: CALABRESE, Giuseppe; Lever Faberge, Via Lombardia, 1, I-20083 Gaggiano (IT).
- (74) Agent: KAN, Jacob; Unilever N.V., Olivier van Noortlaan 120, NL-3133 AT Vlaardingen (NL).
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(54) Title: ELECTRIC TOOTHBRUSH

(57) Abstract: An electric toothbrush comprises a handle and a head, characterised in that the head has a rubbery cleaning element.



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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

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In our co-pending application GB 9912923.1 we describe a brush comprising a housing for a motor and a brush head which is flexible.

- 5 We have found that the benefits provided by a brush head comprising a rubbery cleaning element can be greatly enhanced if provided on an electric toothbrush.

10 An object of the present invention is to provide a cheap electric toothbrush, which provides an improved cleaning benefit.

We have found that an electric toothbrush can provide an improvement upon the prior art when the brush head comprises
15 rubbery cleaning elements.

Accordingly, the present invention provides an electric toothbrush, characterised in that it comprises a rubbery cleaning element.

20

By rubbery cleaning element is meant a cleaning element, e.g. a bristle, which is made of a rubbery material ie. one which exhibits flexible and resilient characteristics.

- 25 In a preferred embodiment, the rubbery cleaning element is in the form of fingers which are generally thicker than conventional nylon bristles.

30 In a particularly preferred embodiment, the rubbery cleaning element is in the form of a flap or lamella. Such a flap or

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lamella may be either linear or arcuate in a cross-section parallel to the brush head base.

Depending on the size of the rubbery element it is envisaged
5 that any number of rubbery elements may be present on the brush and may be in combination with any member of bristle tufts.

A rubbery cleaning element is an enlarged bristle made of a
10 rubbery material. By rubbery is meant that the material has some elastic nature. Given that electric toothbrushes vibrate at an extremely high frequency it is anticipated that a high elastic nature is not necessary and a material with a Shore A hardness of less than 100 is suitable for use
15 in the present invention.

In a preferred embodiment, the rubbery material has a Shore A hardness of less than 100, more preferably less than 80, and especially less than 55. Preferably the rubbery
20 material also has a minimum Shore A hardness of 15, more preferably 25.

Particularly suitable rubbery material include elastomeric materials such as those described in WO97/20484, the
25 contents of which are incorporated by reference.

It is also envisaged that the head of the brush according to the invention is replaceable.

30 The rubbery cleaning element may also serve to provide a polishing benefit to the teeth surfaces.

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It is also possible for the rubbery cleaning element to additionally comprise abrasive materials such as silicas to enhance the cleaning or polishing benefit.

5 In an alternative aspect the invention provides an electric toothbrush with improved sensory benefits. The brush according to the invention provides an improved feel in the oral cavity, due to the presence of the rubbery material. This is particularly so when the non-bristle bearing
10 surfaces of the head is significantly covered by a rubbery material and contacts the buccal lining. This sensory benefit is seen as an important consumer positive.

The head of the brush according to the invention may either
15 be a vibrating head or an oscillating head. For example, the rubbery cleaning element may merely vibrate to effect cleaning or it may be fixed on a rotating head.

The invention will not be described with reference to the
20 non-limiting figure.

Figure 1 is an elevation of a brush according to the invention. It shows a brush (1) comprising a handle (2) and a head (3). The head (3) comprises a bristle bearing portion
25 (4) and a neck portion (5). The bristle bearing portion (4) comprises a rubbery cleaning element (6) and conventional bristle tufts (7).

Typically, the handle (2) will comprise a motor element
30 which vibrates or oscillates at least the brush head (3).

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Figure 2 is a plan view of the brush shown in Figure 1 showing the layout of the rubbery cleaning members and the conventional bristle tufts.

- 5 Figure 3 is a plan view of a brush head designed to rotate around a central point (9).

Shown are rubbery cleaning elements in the form of fingers (10) and lamellae (8) as well as conventional bristles (7).

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CLAIMS

1. An electric toothbrush comprising a handle and a head,
characterised in that the head has a rubbery cleaning
5 element.
2. A toothbrush according to claim 1, characterised in that
the head comprises a rubbery lamella.
- 10 3. A toothbrush according to claim 1 or 2, characterised in
that the head comprises a rubbery lamella and a bristle
tuft.
4. A toothbrush according to any preceding claim,
15 characterised in that the head is replaceable.
5. Use of a toothbrush according to any preceding claim for
brushing the teeth.
- 20 6. Use of a toothbrush according to any of claims 1-4 for
polishing the teeth.

Fig.1.

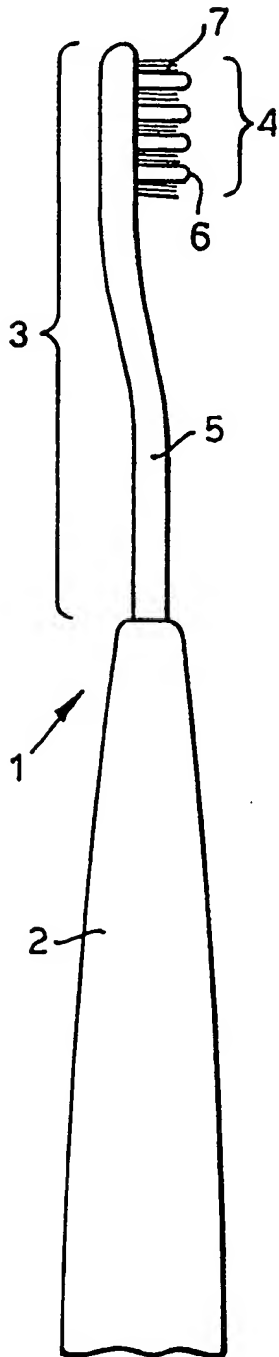


Fig.2.

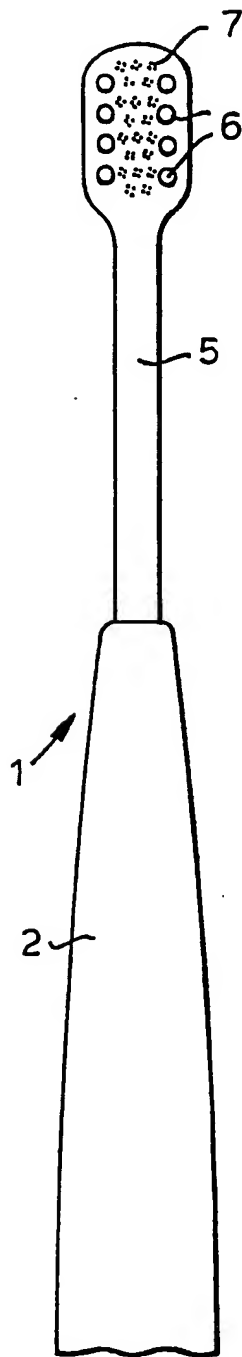
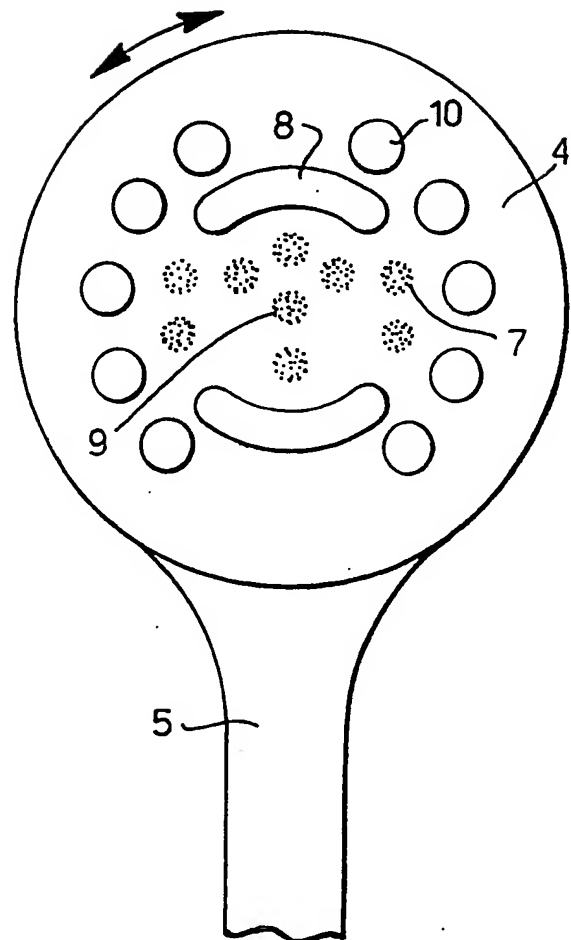


Fig.3.



INTERNATIONAL SEARCH REPORT

International Application No

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A. CLASSIFICATION OF SUBJECT MATTER
 IPC 7 A46B9/04 A46B9/06

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A46B A61C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

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Y	—	3
Y	US 5 735 011 A (ASHER RANDALL S) 7 April 1998 (1998-04-07) abstract column 3, line 4 - line 42 figures 1,2	3
Y	US 5 689 850 A (SHEKALIM AVRAHAM) 25 November 1997 (1997-11-25) abstract figure 1	1-6
	— -/-	



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Patent family members are listed in annex.

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Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
 NL - 2280 HV Rijswijk
 Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
 Fax (+31-70) 340-3016

Authorized officer

Ottesen, R

INTERNATIONAL SEARCH REPORT

Inter national Application No

PCT/EP 00/05947

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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INTERNATIONAL SEARCH REPORT

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